

MAR 19 1936

# *The Executive* **PURCHASER**

A NATIONAL PUBLICATION DEVOTED TO  
PURCHASING AS AN EXECUTIVE FUNCTION  
● IN CORPORATION MANAGEMENT



**RESEARCH** —  
**THE FOUNDATION OF PROGRESS** — SEE PAGE 13

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# The EXECUTIVE PURCHASER

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*The National Publication Devoted to Purchasing as  
an Executive Function in Corporation Management*

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# F. O. B.

## [Filosofy of Buying]

PERHAPS you've heard this one, but it's new to us and we can picture the shade of Elbert Hubbard writhing in envy. It came to F.O.B. at second hand from a sales conference of the Ludlum Steel Company. P. A. Jim Harrington of Greenfield Tap & Die Corp. gets credit for the assist. *An assistant purchasing agent, according to this gem of definition, is a little mouse, learning to be a rat.*

★ ★

*The Old Line Buyer has scant sympathy with those business Pollyannas who find comfort and cheer in the morbid reflection that things are never so bad but what they might be worse. "In my day," he says, "we operated on the principle that there was no proposition so good but what it might be better."*

★ ★

DON RICHBERG, erstwhile guiding genius of the late NRA, has written a history-obituary of that movement under the title: "The Rainbow." Business generally will agree with the symbolism of that title, in that the pot of gold came with the rainbow's end.

★ ★

### P. A.'s Mother Goose

Twinkle, twinkle, bargain lot,  
How I wonder what you're not —  
What defects I cannot see  
Latent lurk inside of thee —  
How you'll stand up under use —  
If you're ace or merely deuce —  
Wonder what it is that's wrong  
That I may buy you for a song.  
Is Sambo hiding in the woods?  
Guess I'll stick to standard goods.

★ ★

The theory of the shorter work week includes the supposition that increased leisure time will lead to greater demand for and consumption of goods and services. Of interest, therefore, is the survey of leisure time activities of 800 representative citizens of Binghamton, N. Y., recently completed by the Civic Education Forum. First on the list is "reading the newspaper"; second, "listening to the radio." Far down toward the end comes "work about the home." Which leaves Noah Webster one

up on the social scientists for his definition of *leisure*, meaning *unemployed*.

★ ★

THE old question of which came first, the hen or the egg, has its counterpart today in the question of which comes first, the steel price or the quotation. Speaking of the basic second quarter list, the *Journal of Commerce* naively comments: "Some uncertainty has already been noted as to whether second quarter prices named last week, such as wire nails, wire products and certain kinds of pipe, represent declines or advances. Actually, it is pointed out, the new levels represent advances from prices that have been obtained in concessions. They are lower only by comparison with supposed quotations for first quarter." In other words, it all depends on what kind of a buyer you have been over the past three months.

★ ★

A plant visitation is an educational junket on which the visitant sees about half of what is shown, understands about half of what he sees, remembers about half of what he understands and uses about half of what he remembers.

★ ★

*Curious Cuthbert wonders whether P. A. addicts of this new game "Monopoly" have been any more successful beating the game with dice and paper money, than they have been in facing the actual situation.*

★ ★

SENATOR SMITH of South Carolina wants to abolish and prohibit all forecasts, public and private, concerning the size of the cotton crop. "No man," he argues, "can predict what's going to be the final production until the crop is gathered. The Department (of Agriculture) does the best it can, but it might just as well try to predict what the Senate's going to do as to estimate the cotton crop." Then relenting slightly, he adds, "I think the Government should give up this guessing. Let each man make his own prediction." Yes, Senator, we too have been just about as successful following hunches as following the form sheets.

★ ★

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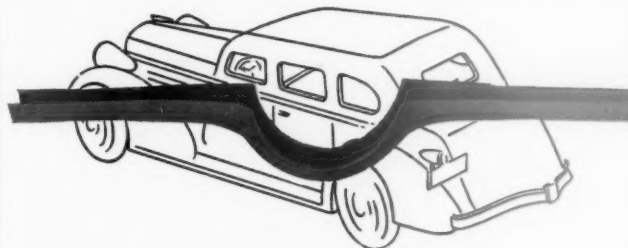
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# The Purchaser's Viewpoint

## VALUE MAKES VOLUME

IN citing the automobile industry as the successful exemplar of the Brookings plan of sharing with the consumer savings due to technological improvement, emphasis has generally been placed on the introduction and development of low price models, resulting in the ascendancy of the big three—Chevrolet, Ford and Plymouth. This illustrates only one phase, the natural situation of a price and quality range within the industry and competition on the basis of such variations. The unfortunate connotation of this widely quoted example is that extension of markets is somehow associated in the popular mind with a lowering of quality standards. Such a conclusion coincides neither with the plan nor with the facts. It does not satisfactorily explain the favorable position and record of the industry as a whole.

A new study by the Automobile Manufacturers' Association gives a truer picture of the situation, demonstrating the broader application of the plan on an industry-wide basis and giving additional force to the principles involved. This study, based on comparative average costs of twenty-five models, relates price and value by an analysis of three separate factors—horsepower, weight, and wheelbase. In the ten year period 1925-1935, it is shown that average price per horsepower has declined 73.5 per cent, price per pound has declined 42.1 per cent, and price per inch of wheelbase has declined 33.8 per cent. To express one of these comparisons in terms of dollars rather than percentages: The car owner in 1925 paid, on the average, \$25.86 per horsepower; in 1935 that average cost was down to \$6.86.

To complete the demonstration it is necessary to relate these figures with the general commodity price level and with labor rates in order to show that this increased value is not simply a matter of natural decline in material costs or an exploitation of labor.

On the first point we find the general commodity index down 23 per cent in the same period, a decline that is substantially exceeded by any of the measures of automobile value noted above. A contributory factor, it is clearly not responsible for the whole downward trend of car prices.

On the second point, we find wage rates in the industry higher even than in 1929, and more

workers employed than in the years 1923-1925. In other words, it has not been a case of exploitation, and though unit operations may show considerable technological displacement of labor, the net result of expanded production to supply an expanded market has been to increase employment.

It follows then that the accomplishments of this industry in marketing its product and offering greater value per dollar must logically be ascribed to increasingly efficient management and operation, plus the policy of sharing with customers the benefits derived from technical advances, both as to cost and quality. And this is the heart of the Brookings plan. Those who have viewed the proposal as inimical to the capitalistic system will do well to scan the operating statements of the motor industry that has tried it.

## MANAGEMENT POLICIES UNDER NEW TAXATION

THE proposed revision of the corporation tax program, levied against undistributed corporate earnings in place of income, capital stock, or excess profits, is based on the assumption that some four and a half billion dollars are slated to go into surplus funds during the year. It is safe to say that under such a levy, the sum will fall considerably short of that figure as management adjusts its policy to meet the new situation. This does not mean deliberate tax evasion, nor does it imply the failure of the tax program, for expenditure and distribution of these funds would be reflected in other taxable income. But it is the plain duty of management to administer corporate resources in the way best suited to promote industrial welfare under existing conditions and regulations.

For some years past it has seemed the most prudent policy to build up substantial reserves wherever possible. That trend has been attacked from a social standpoint as one of the contributing causes for lack of consumer purchasing power. Such a categorical denunciation overlooks the fact that reasonable reserves are essential to the stability and permanence of the individual enterprises; that they were the means of continuing employment and operation, even on a curtailed scale, and main-

taining wage rates for many months after cold-blooded appraisal of business conditions would have dictated drastic retrenchment; that in this way the initial shock of depression was tempered and business and labor generally were saved from more abysmal depths than those we actually experienced; that provision must be made in good years to carry through a less favorable period. William J. Cameron of Ford Motor Company, points out that the twenty-seven billion dollars of surplus spent by private industry since 1930 still heads the list of recovery expenditures, topping even the governmental figure for comparable projects. "Private surplus," he states, "is public security. Since 1930 it has been national salvation." But if such reserves are to be discouraged, resourceful business men will have to decide anew how to make the best use of their resources and will find other means to cope with the situation.

One serious effect will be found in respect to the revival of construction and the capital goods industries. Particularly in the past two years there has been a great incentive to convert corporate income into plant rather than financial balances, with a highly beneficial result in the way of modernization and expansion programs. These incentives would be largely counterbalanced by the new proposal, and it is likely that investment in capital goods would suffer, perhaps even to the point of inadequate provisions for depreciation and obsolescence. The portion of corporate income that can be profitably used for the furtherance of business will probably go into the channels of additional research and advertising. A similar development followed the introduction of the excess profit tax, and with generally good results. The deeper consciousness of these two important and salutary factors has remained and aided materially in our business progress.

But research and advertising create the need for new and modern plant, and this will have to be sought through the slower, more expensive and less assured medium of new financing. Construction and machinery building will be retarded. And the eventual result will be a larger capital investment supported by a depleted financial structure—a situation scarcely leading to sound and stable industrial strength.

## A PURCHASERS' CONVENTION

THE preliminary outline of the New Orleans convention program of the National Association of Purchasing Agents has been drawn. Under the direction of Program Chairman Walter Kirkman, the 1936 convention shapes up as distinctly a purchasing man's conference, dealing with the realities of the buyer's job, touching upon his everyday departmental problems and duties, couched in his own language. It promises to be one of the most practical and helpful meetings of the sort ever offered to purchasing executives.

It is natural and proper that such a theme should be chosen at this time. For some years past, the fundamental changes in economic thinking and outside forces affecting business, with the attendant uncertainty as to guiding policies, have demanded the greater share of attention. At Detroit, economic planning in the modern sense was a new concept for industry at large. At Boston, we stood on the eve of the great national experiment. At Cleveland, the recovery program was in full career, with all its idealism of motive and its confusion of mechanism to be clarified. At New York, the NRA had been swept away, governmental policies were under fire, and familiar economic forces were struggling to assert themselves.

Today, with business definitely on the upgrade again and relatively free from outside interference, with recovery once more the active personal responsibility of every unit in the field, with executives in a position to concentrate on the task at hand rather than to speculate on conflicting theories and divergent possibilities, it is time for intensive examination of the job.

Purchasing has changed in the last five years. The period of stress and reorganization has left its stamp on this as on other phases of business policy and administration. The buyer has new and greater responsibilities in the new order. He is dealing with new policies of management and new marketing factors. He must be prepared to accept these responsibilities and to relate his function and his work with the general program to forge ahead. The meeting at New Orleans in May will be a very practical help to this end.



## Practical Uses of the Law of

# SUPPLY AND DEMAND

## in Industrial Purchasing

BENEDICT VAN VOORHIS, P. A.

DuPont Viscoloid Company

**P**RICES of the things that purchasing agents buy are rarely static. Variations in prices are caused by many different things, but nearly always there is a feeling that the most important determining factor is the law of supply and demand. For a law as universally discussed as this one, there is a strange absence of carefully worded copies. In general the feeling seems to be that increasing supply or decreasing demand tends to lower prices and that decreasing supply or increasing demand tends to raise prices. Some writers profess a greater familiarity with the details of the law, and claim that at a certain equilibrium price, supply and demand will equalize and the greatest amount of business be done.

### THEORY AND APPLICATION

With all this theory the purchasing agent is vitally interested, but, in practice, it is hard to see where and how the law can be applied to advantage. The forces of demand and supply are rarely given free rein to operate and to set prices. Commodity exchanges operate on only a limited number of commodities, and due to the technicalities of futures trading and hedging they may not truly picture the resultant of the forces of demand and supply.

The apparent difficulty of making any practical use of the law of supply and demand should not,

however, deter the purchasing agent from attempting to apply the law intelligently to his own problems.

There are two rather distinct problems whose solution may be forwarded by the application of supply and demand data. These are

- (1) Are prices going to advance or decline?
- (2) Are present price levels justified by present conditions?

The first of these problems is the simpler of the two, and for that reason it is considered first. Our reasoning must start from the base, however, that present price levels represent an equilibrium of demand and supply.

### GETTING THE FACTS

With the exception of the few important commodities listed in exchanges, figures for either demand or supply must be searched for. Supply figures are usually the easiest to get. Products of the field or mine are usually listed by Government or private agencies. Manufactured products can usually be referred back to their essential raw material elements, making sure, however, that manufacturing capacities are ample and will not act to hamper or restrict supply if demand increases. By-products must also be referred back to the basic materials from which they come.

As we dig out our figures, it becomes apparent that we must have

a basis of time to work on. How far ahead are we looking? This question must be settled first. The rest follows. Figure out what the total supply is likely to be over the period under discussion, and also put down a second figure indicating what you think a maximum supply might be.

Since your figures are subject to error and can best be used relatively, compare your results with similar figures for other periods. The results will give you a picture showing whether the supply will increase or decrease. It is sometimes



### SAYS HI-PRESSURE PETE:

*The P. A.'s who are promoting the policy of shorter interviews will find plenty of support in the waiting room, but strenuous opposition from the lucky ones who get inside.*



advisable to work the results out to a percentage basis.

Next we take up demand. Figures are harder to get. Past consumption figures help but do not always tell the story for the future. Most published figures represent someone's estimate, and rarely do forecasted consumption figures compare at all in accuracy with forecasted supply figures.

Here is a way to overcome this difficulty. Nearly all sales departments keep records of the share of each customer's business they think they are getting. Salesmen make pretty shrewd estimates of the total consumption of each customer they call on, to see what they may expect in the way of orders. Most of this information is available to purchasing agents if they know what to ask for and are willing to piece together the scraps of information they get from each source. Let this be your "Demand Record," and put into it not only the cold statistics of what yearly quantity of the material the trade uses but also the vital information as to each company's buying position. Are they stocked up, and out of the market, or will they soon be active buyers? From your various sources you can build up a fairly good forecast of demand, and down to a percentage basis.

#### USING THE DATA

Now put your facts down on paper, and from them draw your conclusions. Then if you think prices will advance, give a thought to substitute products which at higher price levels may drive this material out of some important industry. Or, if you conclude that prices will go down, look around for places where this material might be used if prices were less. If you still feel that your judgment was correct, act accordingly, and file your reasons where you can refer to them if things do not go as you expected. This will improve your next attempt to forecast.

Problem No. 2 was to determine if present price levels do represent

an equilibrium of supply and demand factors. This is really more important than the first problem, and it should be considered in every important purchase. Is the price you pay the right price?

Again, leaving out commodity exchanges, most of the prices quoted you are based on what the seller thinks he can get. Each seller is primarily interested in the prices quoted by his competition. There is always a tendency to stabilize prices in an industry on some such basis. To the purchasing agent, this means that the free reaction of price to supply and demand is hampered, and he is puzzled to know if his price is an artificial price or not.

#### COST OF PRODUCT

The first step to overcome this situation is to find out something about the cost of the product. This can always be done with a reasonable degree of accuracy, and sometimes with surprisingly accurate results. Try to build up your information with respect to the factors of material, labor, and overhead. Then you can vary your results with changing conditions without repeating all of your original labor of investigation. All this would seem to have little to do with supply and demand. If your suppliers are quoting freely, you will get a range of prices on the item you are interested in. If this range seems too large, it is an indication that supply and demand are not acting freely on your prices. If the range is narrow, the supply-demand factor may be the reason, or there may be some other reason.

#### PRICE DIFFERENCES

In general, price differences indicate a healthy condition and should be encouraged. However, watch what buying does to these differences. The low prices should disappear first. If they do not, it is an indication that the pricing is not the result of supply and demand.

A rising market tends to spread differences in prices. A falling

market tends to narrow differences temporarily.

The element of time again must be considered in determining whether the price you are reviewing is the right price. To properly evaluate the situation you should go back over a reasonable period, and by checking the demand-supply situation with price at various times, you can see what influence the changing ratio of demand and supply has on prices. This examination of past price history and comparison of it with supply-demand situations is the most important method the purchasing agent has in determining the correctness of prices. The results should, however, be checked against estimated cost.

## MANAGEMENT LOOKS AT PURCHASING

by E. J. MILLER

President  
St. Louis Screw & Bolt Mfg. Co.

President  
Associated Industries of Missouri

**P**URCHASING is an integral part in economic conduct of business, which compels close co-operation of its function with plant operations and sales influences.

Intelligent purchasing requires first a distinct understanding of materials to be bought.

It requires a record of suppliers, covering experiences with their product and service.

It requires observation and research properly to evaluate the relationship of service versus price.

It requires constant study of market conditions and trends properly to anticipate costs and delay in procurement.

It requires proper contact for sales representatives offering materials or equipment of interest to others in the organization.

It requires prompt and courteous reception of sales representatives without prejudice or preference to them as individuals.

It requires above all the exercise of common horse sense.

(From the Bulletin of the P. A. Assn. of St. Louis)

# RESEARCH AND DEVELOPMENT

## — the Foundation of Progress

**L**OOK to the supply source that has a healthy regard for technical research and maintains an adequate staff and equipment to go pioneering for better materials and methods. It isn't enough merely to keep abreast of the times. Widening markets, product improvements that keep a company in the forefront of its industry, are won only by keeping a step ahead. The follower can never be a leader.

Well, isn't that primarily a job for the individual company? Don't we maintain our own technical staffs for the constant refinement of design and procedure to the end of bettering the product and achieving greater operating efficiency? Doesn't the alert buyer keep close check on factory experience with various lots? Hasn't he free access to the laboratory for aid in setting up his specifications, making the necessary acceptance tests, and such additional inspections as may seem desirable?

### THE OUTSIDE VIEWPOINT

True, and so far as it goes this is altogether praiseworthy. But the history of industrial progress records the curious fact that while each group is busily and earnestly working to perfect its own particular field of operation, that work is very likely to follow along traditional lines, whereas the major and revolutionary contributions to progress have generally come from the outside, where imagination and perspective are untrammelled.

Dr. C. M. A. Stine, Vice President of E. I. duPont de Nemours & Co., last month addressed the Traffic Club of Wilmington. Speaking to railroad men, he chose his

**Industrial research is not altruistic in motive but its justification in the commercial sense depends on producing a mutual advantage for maker and user.**

text from the railroad industry. With all due respect for the accomplishments of the carriers in the direction of increased speed, fuel economies and elimination of surplus weight, he pointed out that the steam locomotive of today is essentially the same in principle as the one that Stephenson hitched to the first practical train in 1829, that no significant improvement in box car design had been made for seventy-five years. And meanwhile, the eight major advances in railroad transportation have been invented by non-railroaders: the telegraph, the sleeping car, the automatic block signal system, the air brake, the refrigerator car, the automatic car coupler, the vestibule buffer, and the electric locomotive. Real progress has come from outside the industry. It is more than likely that further developments will come in large part from similar sources.

### THE BUYER'S INTEREST

And that's where the purchasing executive fits into the picture, as the first point of contact with the outside organization. It is within the scope of his influence — if he will make it his business and his policy to work along such lines — to be in the front rank of those to have the benefit of that outside research, to extend the laboratory

equipment and technical effort of his own company to include the corresponding activities of supplier organizations.

Not that research is altogether — or even primarily — an altruistic undertaking. It is frankly one means, and a very effective means, of placing the company in a better competitive position, of extending markets, finding new uses for existing products and better products for existing uses. The purchasing man and his company are a part of that prospective market. But since the market can be won only by superior merit or some other commercial consideration, there is an element of mutual advantage which cannot be overlooked.

### PROFITS OF RESEARCH

Research pays. It is the foundation of many a successful company. But it pays only by sharing. A current advertisement of the General Electric Company, an outstanding example of the research-minded organization, points out that "other industries — and the public that buys the goods of those industries — have benefited by this research, that has saved the American people from ten to one hundred dollars for every dollar it has earned for General Electric."

The development of nitrocellulose lacquers a little more than a decade

ago has been a boon not only to the lacquer manufacturers. Finding a rich market in the automotive field, it accomplished a threefold benefit for the car makers:

(1) It reduced a process involving twenty-two distinct operations of highly skilled handwork in the application of old-style paints and varnishes, to relatively simple and inexpensive proportions.

(2) It reduced the time of the body-finishing job from six weeks to two days, eliminating one of the serious "bottle necks" of production that had previously hampered the industry.

(3) It provided a finish with a useful life comparable to that of the car itself, instead of one which lost its freshness and beauty within a few months. This was a real sales help and an advantage to the car-owning public, removing one of the aggravations and sources of dissatisfaction incident to ownership.

Other instances of research developments may be less direct and apparent in their results, but the principle still holds that the fruits of research are enjoyed all along the line, by the intermediate and ultimate buyer as well as by the original manufacturer. This is the commercial justification of research, which has attained the size of a very substantial industry in itself, with 1600 units, 35,000 workers, and annual expenditures in excess of two hundred millions of dollars.

#### INDUSTRY'S RESPONSIBILITY

And research today, more than ever before, is the responsibility of industry itself. The ideal situation, perhaps, would be to delegate this project to public or semi-public agencies such as the university laboratories. It was estimated by Prof. Roger Adams of the University of Illinois, President of the American Chemical Society, in his address before that Society last year, that the basic information for more than 95 per cent of all industrial processes had been originally discovered and described by university investigators. Only a few of

the research laboratories maintained by private industry have been willing or able to devote their attention and efforts to the field of pure science. They have for the most part concentrated upon commercial or so-called "practical" applications.

That industry has recognized the importance of this basic research is attested by the fact that many of the university projects have been underwritten and endowed by private industry with the dual effect of subsidizing the work itself and training competent technical personnel to carry on the studies and to perfect their applications in the laboratories of industry.

It has become a source of much concern to those interested in university research that the financial situation of schools and foundations has generally suffered greatly over the past few years, not so much in depreciation of the securities which represent their endowment funds, but in the notable slackening in gifts and appropriations for such purposes, and the more recent tendency for refunding of bond issues at lower interest rates. The combination of all these factors has resulted in a situation which Prof. Adams characterizes as "precarious" from the standpoint of continued progress in pure science, as it clearly indicates the necessity of retrenchment and curtailment of such work.

The responsibility is therefore thrown back upon progressive industry, either to provide a greater measure of support to the university research laboratory, or to shoulder the task itself.

All of which makes it a very pertinent question for the purchasing man to inquire into the research facilities, and the research interest, of his prospective sources of supply and to maintain a close and cordial relationship with those who, in his opinion, promise to be among the leaders in this march of progress.

It is not a factor that can be judged by size alone, nor is it al-

ways publicized to the extent that makes an accurate appraisal easy. It may require a little active research work on the part of the buyer himself to learn what is going on in the plants and organizations of his various vendors. Personnel is a factor of major importance; experience and intelligent interest in a particular field are others. One of the most fruitful mechanical engineering laboratories that has come to our attention does not even make any claim to the title of "laboratory." It is the tool-makers' room of a little stamping plant that would ordinarily seem to have little to offer the industrial buyer. Yet it has wrestled so successfully with intricate problems of its own, and has gathered a staff of such skilled operators, that many a more pretentious manufacturer "in the know" has taken his troubles there and come away satisfied, with some knotty problem brought to the stage of practical development. This is but one phase of the information that a buyer will find of exceedingly great value. There are scores of similar instances in many specialized fields.

Self-reliance is an excellent trait, unless it means travelling with a pair of blinders that restrict our vision of what is going on about us. Cultivate the research-minded vendor and share with him the opportunities which technical progress is revealing on every hand.

#### APPOINTMENTS

C. G. KREPPER has been appointed purchasing agent for the Muskogee (Okla.) Iron Works, succeeding MANLY W. CLARK, who resigned to take over the purchasing duties at Tulsa Boiler and Machinery Company.

A. FINDLAY has been appointed purchasing agent for the United States Printing & Lithograph Company, New York City, succeeding the late William H. Keeler.

THE EXECUTIVE PURCHASER



# SELF-TAPPING SCREWS

## — an Aid to Economical Assembly

Construction, automotive, electrical equipment and radio are among the many industrial fields where satisfactory service, speedier operation and lower costs have been achieved through the application of these modern fastening devices

FRANCIS A. WESTBROOK

Consulting Engineer

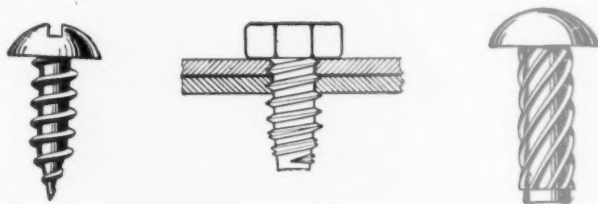
IN the assembly of manufactured products, and also in various kinds of structural work, the question of fastening the parts together is something of a problem, especially from the standpoint of economy and strength. Among the products that have been developed to meet certain phases of this problem is a series of so-called drive-screws and screw-nails, fabricated of hardened metal so as to cut their own thread as inserted or driven into a variety of materials, resulting in a self-tapping operation. Made in a considerable range of designs adapted to various applications and conditions of use, just as in the case of other types of fastenings of earlier development, they are unique in that they may be turned or driven into holes previously punched, drilled or molded, but not tapped.

This type of fastening has several important advantages. In the first place, the tapping operation is eliminated. The fastenings made with these devices are not affected by vibration, as their threads are cut in the material by the hardened thread of the fastener, thus obtaining a precision fit commonly called a "cold weld." Lock washers and other auxiliary locking devices are not necessary to obtain security. The fastenings may be applied by means of a screw driver, wrench or hammer, depending on the type of the fastening device. As the operation is very speedy whichever method is used, it lends itself very well to mass production or to single assemblies with an equal degree of facility and at low cost.

The application is very wide and there are now some 50,000 users, making a great variety of products. One very wide field of usefulness is for fastening together sheet metal parts. Another is the assembly of plastic products. Still others in the field assembly of pre-fabricated steel buildings, in automobile body

work; the assembly of all kinds of electrical appliances; attaching sheet metal to wood; the assembly of die castings; and a great many others. Rather than attempt to enumerate all the applications in general terms, it will be more illuminating to select a few typical examples from different fields and briefly summarize what has been accomplished. In this way the possibilities will be set forth and the reader can see whether his products may not be similarly assembled. Or at least he may consult with the manufacturer of these fasteners and obtain additional information and data that might be helpful in reaching a conclusion as to whether or not the devices may be adopted with economy for his particular assembly problem.

First, however, it will be well to describe in a few words what these hardened self-tapping screws and nails are like. It is to be borne in mind that all of these fasteners have hardened threads so that they will cut their own threads as they are turned or forced into the materials that they are to hold together.



The original sheet metal screw, which is still extensively used, has the appearance of an ordinary rolled thread wood screw. The hardened threads, though, are designed for fastening together pieces of sheet metal up to 18 gauge in thickness — that is thin metal. An improved type has been designed with a tapered pilot instead of a gimlet point, and because

of the difference in thread structure it can be used for joining and making fastenings to sheet metal up to 6 gauge in thickness. It is also widely used for assembling aluminum and die castings, plastics, etc. Furthermore, they can be successfully used for fastening parts to slate, ebony asbestos, fibre and the like. Both types of screws have slotted heads and are turned into drilled, pierced or clean-punched holes with a screw driver.

A modification of this second type is designated as a hex-head hardened self-tapping cap-screw. It is applied with an end or socket wrench. These are suitable for a great variety of work involving heavier materials, as they can be turned in in places where a screw driver would not be practicable. Furthermore, due to the ease and quickness with which they can be driven they are widely used in industries requiring great speed of production, as in the radio field. They are used for joining and making fastenings to steel plates and structural shapes up to  $\frac{1}{2}$ " thick and also on solid sections of brass, bronze, aluminum, slate, transite board, ebony asbestos, die castings and the like.

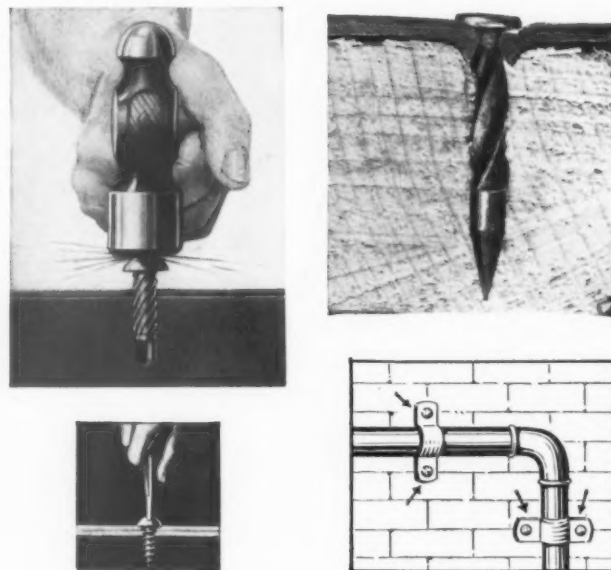
Still another form of self-tapping screw is known as the Type "U" hardened metallic drive screw, which is provided with multiple threads of long pitch that is driven in with a hammer or may be forced in with a kick or arbor press into holes previously punched, drilled or molded in the material. Unlike the slotted head screws or the hex-head screws previously mentioned, the drive screws are intended for making permanent fastenings only; that is, once driven in they cannot readily be removed. They are particularly suited for making permanent attachments to brass and aluminum castings, iron, steel, plastics, etc. They have demonstrated a high degree of holding power under the stresses of tension, shear and vibration to escutcheon pins, machine screws, etc.

Other interesting variations of the self-tapping principle are hardened screwnails and hardened masonry nails. The former is intended for fastening sheet metal to wood. These nails have hardened threads with steep pitch and because they are made of hardened steel they can be driven through sheet metal without easily bending or breaking. Masonry nails are expressly designed for making fastenings to brick, concrete, mortar and the like in comparatively soft materials such as cinder concrete, etc., and it is not necessary to drill a hole. However, when hard masonry is encountered, a small lead hole approximately  $\frac{2}{3}$  the length of the nail is necessary. They are used for many different kinds of attachments such as signs, cornices, metal ceilings, machine guards, concrete footings, railings, pipe clamps, fixtures of various kinds, meters, outlet boxes, wires, mouldings, awnings, etc.

All of these products are made in various sizes and with different styles of heads for use under all kinds

of conditions. It is, therefore, highly desirable to consult with the manufacturers when considering their use in order that the best results may be obtained because the assembly advantages that these devices offer, their principle of action has often been incorporated and a part specifically made to meet a particular problem.

Now let us consider some instances of actual use of these hardened self-tapping fasteners. One very successful user is a large refrigerator manufacturer who uses the sheet metal screws in the assembly of his



cabinet. Formerly the outside sheet metal parts were fastened to a wood frame work by the means of wood screws. By using the self-tapping sheet metal screws we have described, it was possible to eliminate the wood frame entirely and fasten the sheets directly to each other, reducing the cost of each cabinet about \$.91 or, in terms of the year's production it meant a gross saving in the neighborhood of \$64,000.00. In addition to reducing costs it was found that the cabinet was structurally stronger with the metal parts fastened together in this way than when the  $\frac{3}{4}$ " wood screws used in a wooden frame.

#### TYPICAL APPLICATIONS

A very interesting example of the advantages of using the self-tapping screws was experienced by one of the largest manufacturers of sheet metal partitions. One specific field assembly we have in mind required five machine screws and three bolts. The holes for the machine screws had to be tapped, and when the bolts were placed it was necessary to have two men, one on each side of the partition. The use of the self-tapping screws made it practicable for one man to do the job and the tapping operation was done away with entirely. A careful estimate made by this manufacturer showed that a saving of \$15,000.00 a year in their field assembly work had been accomplished by these devices.

Formerly escutcheon pins were used by a maker of gasoline and oil dispensing equipment for attaching name plates, but because of the difficulties encountered on account of the slight variation in the diameters of the holes provided for the pins they were abandoned. They found that with Type "U" hardened metallic drive screws recommended for this job, it did not make any difference if the holes varied as much as .005". Much trouble was avoided in this way, with a definite saving in cost and a considerable speed-up of production.

Probably the most outstanding use of these screws is found among the radio manufacturers. In one of the popular sets made by Philco, 44 tapping operations were eliminated by the use of hardened self-tapping screws. Last year's consumption of the self-tapping screws by this concern ran well over 65,000,000. Thus the enormous savings by eliminating the tapping operation is readily apparent.

These screws have been subjected to a wide variety of laboratory tests for strength and holding power under severe vibration as well as under the stresses of tension and shear loads, and in comparison with machine screws, bolts and nuts and other devices designed for similar uses. Their extensive use in airplane and automobile body assembly work is an indication of their satisfactory performance and their resistance to working loose.

In the assembly of plastic products, especially electrical equipment where connections must be provided for, one of the great advantages of using self-tapping screws is that the metal bushings (which are sometimes the most costly part of the product) can be omitted. Thus one company now fastens its three metal chart clips to the thin Bakelite cover on a recording device with self-tapping screws and has cut the labor cost in half by eliminating bushings and tapping and thus shortening the production route.

## The P. A. as SALESMAN

KARL F. WESTERMANN, P. A.

Columbia Steel & Shafting Co.

THERE is an undeniable relationship between buying and selling, not only because the salesman contacts the buyer, but because the buyer is virtually a silent salesman. Salesmen are very susceptible to the impressions created by the treatment they receive at the hands of all purchasing departments. If they are treated properly, the impression is favorable. If they are made to wait too long, or not given cooperation, the impression is unfavorable. There are many instances where salesmen have been advanced to executive positions, and they remember the attention they received at the hands of their former customers. The good will extended to them when they were "peddlers" rebounds 100%.

A Purchasing Agent is always a walking salesman if not a talking one. Stop and think just a minute the impressions you have formed of your fellow buyers that you meet in your association meetings. Some members are aggressive, others hesitant, some are conservative, others liberal. Be honest now! Haven't you formed an opinion of the company they work for by their attitude? Of course you have. We must not forget we are always on the spot telling the world the kind of an organization we work for by our actions.

The purchasing department sells its organization in another way. Much mail comes to your desk from companies that have something they want you to buy. These letters are the result of a carefully planned selling campaign, and very often are signed personally

by an executive of the company. If you want to get a word in for your company, reply to those letters if nothing more than an acknowledgment. Campaigns of this kind are watched closely by the executive staff. They generally involve considerable expense, and the results are tabulated with the idea of determining if the expense was justified. All replies are scrutinized by those in charge, and your company name passes before these executives, a silent invitation to them to learn more about your organization. Your interest in their product automatically gives them a desire to know more about your organization.

Do your sources of supply say you are efficient? Are confirming orders sent promptly? Are you slow in asking for credits when a credit is due? Are you specific with information? Do you demand fair adjustments or do you request them? These matters are small. Yes. But the one with whom you deal judges your company by the way you handle these details.

Selling by creating impressions is carried far by the purchasing department.

### SIXTY YEAR SERVICE RECORD

HENRY MENGES, formerly purchasing agent of Joseph Woodwell Company, Pittsburgh, has retired from active service in that capacity after sixty years of continuous association with that company. Mr. Menges joined the Woodwell organization way back in the days when General Grant occupied the White House, and had been in charge of the purchasing department for many years.



# THE MARKET PLACE

## BURLAP OUTLOOK

Burlap is a textile fabric woven from jute fiber. The latter, an agricultural product, is subject to natural price fluctuations on the supply side due to crop conditions and the seasonal cycle.

On the demand side, the chief applications of the finished product are (1) sacking and baling, taking more than 80% of the output, (2) linoleum backing, (3) roofing materials, (4) upholstery and clothing interlining.

It would be reasonable to expect some fairly stable price relationship between the market course of the raw material and that of the manufactured product. But while such a relationship is apparent in the general price curves over the two decades prior to 1934, a different situation has developed during the past two years.

In the latter period, the short-swing fluctuations have corresponded in direction but not in extent, with the result that the longer trends of these two markets have been directly opposed. Jute prices, aided by the influence of the Indian government since 1931 in persuading the natives to cut acreage down one-third, have advanced in a little less than two years from a low of  $3\frac{1}{2}$  cents per pound to  $4\frac{3}{4}$  cents. Meanwhile, burlap ( $40-10\frac{1}{2}$ ) which sold at 7 cents per yard (or about 10.7 cents per pound) in the early months of 1934, is currently quoted at 5.35 cents per yard (or about 8.15 cents per pound), chiefly because the production agreement has been a voluntary arrangement in which all members of the industry did not choose to participate. Viewed in relation to jute prices it means that the manufacturing margin has shrunk in two years from 6.4 to 3.4 cents per pound.

This situation, already acute, promises to become even more serious, for not only are the price curves still converging, but the production agreement among the members of the India Jute Mills Association expires on April 1st, and at the present writing there seems to be little prospect of a new agreement immediately succeeding the old.

Curtailement has been achieved among the member mills (1) by sealing 15% of their looms for a period of years, and (2) by adhering to an operating schedule of 40 hours per week. Outside operators have utilized full capacity on a 54-hour basis, particularly since a general improvement in world industry has created a greater demand for burlap.

If the Association mills should go to this latter schedule in an unrestricted competitive struggle, it would mean that monthly production would immediately rise to 170 or 180 million yards, or some 40 million yards per month in excess of world requirements, with rapid accumulation of surplus stocks and price demoralization checked only by the relatively high price of jute. Prices in this industry have been notably sensitive to increase or decrease in visible supplies, and it would seem to resolve itself into a matter of relative strength of financial resources as between the two producing groups.

The alternative is governmental action enforcing a mandatory 40-hour maximum work week, but there is an apparent reluctance to invoke such legislation unless the curtailed jute program (which is also a voluntary arrangement) is endangered by a production spree.

Developments of the next three weeks, in both jute and burlap, are of the utmost importance to buyers of these materials.

## SUPPLY

## DEMAND

## MARKET

### COAL

**B**ITUMINOUS output in February was at the highest rate since October, 1930, averaging more than 10 million net tons weekly. Production was steady, distribution facilities taxed by the large volume and the virtual suspension of truck transportation due to road conditions.

**I**NDUSTRIAL coal inventories have been declining, as buying in recent months has been less than consumption. Dealers' and consumers' stocks depleted. Consumption of both anthracite and bituminous has been heavy.

**N**O advance in coal quotation was registered in February, but price concessions were rare and much of the business was on run-of-mine basis. In early March bituminous prices weakened, particularly in the western fields.

### COPPER

**P**RODUCTION rates were held fairly steady in spite of violent fluctuations in the sales rate, as most producers have a backlog of orders extending up to May, and most current orders are for the later delivery.

**T**HANKS to two record days (February 14 and 15) when sales of 47,499 tons were recorded, February sales reached a total of 78,654 tons, or more than double the January figure.

**C**OPPER markets present the novel situation of a dual price since mid-February. The higher base figure of  $9\frac{1}{2}$  cents prevails in scrap and custom smelter business; otherwise the  $9\frac{1}{4}$  cent price is unchanged.

### COTTON

**A**SURVEY of 1936 planting operations indicates an increase of 16% in acreage over 1935, the sharpest gain being in the west. The Producers' Pool liquidated 162,000 bales of cotton in the period from February 13 to 24, representing about one-fourth of the spot stocks.

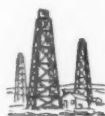
**F**OLLOWING a lull in January and February factory operations during which stocks accumulated at the mills, March opened with heavy spot purchases, still on a hand-to-mouth basis. Staple business holds up well, but the demand for early spring specialty textiles has been severely hurt by adverse weather.

**S**POT prices for cotton ranged narrowly from 11.10 to 11.25, with uncertainty regarding government selling policies still the chief market factor. Hedge selling was active, chiefly in the new crop positions. October futures sagged below 10 cents at one time, but subsequently recovered partially.

## IRON & STEEL

**A**FTER a mid-month recession, ingot production rose in February to a rate of better than 53%, apparently well sustained. This is well ahead of the rate reported a year ago. Rated capacity at the close of 1935 was 69,789,554 gross tons, a decline of about 1/3 of 1% for the year, reflecting the further abandonment of Bessemer converters, which now account for only 8% of total production. Open hearth capacity (now 90% of the total) increased 360,000 tons during the year—entirely through improvements—no new units being added.

**R**AILROAD demand was on the broadest scale recorded for many months past, embracing rails, track fastenings, cars, locomotives and repair steels. Other demand was well diversified, plates and reinforcing bars showing activity, warehouse and lighter items also moving in better volume. The general tone is optimistic, with the seasonal peak expected to develop late this month or in early April.



**P**REVAILING price concessions, which have spread from the automotive items into other branches of the industry, and particularly apparent in the brisk market for concrete reinforcing bars, have effectively forestalled any intention on the part of producers to raise second quarter price schedules. Nominally, quotations are held at previous levels, and while the market cannot be truly characterized as weak it is generally conceded that the present availability of immediate steel at attractive figures would militate strongly against any effective advance in quotations at this time.

## PETROLEUM

**O**UTPUT of crude oil was further curtailed during February. Surplus stocks of gasoline, however, have been rapidly accumulating at refineries, particularly in the southwest.

**F**UEL oil continued in good demand, lubricants steady, and gasoline consumption still low due to unfavorable driving conditions.

**S**TANDARD OIL COMPANY of California posted higher prices (base price up 20 cents per barrel) for crude on February 26th. Gasoline sharply down in eastern retail markets.

## RUBBER

**N**O change in export quotas has been announced, but further increases in export duties serve to strengthen production control. Stocks heavy but declining.

**F**ACTORY demand is limited in view of labor difficulties at Akron, where, at the present writing, the Goodyear walkout is in its fourth week.

**R**UBBER markets have been reasonably steady, with trading quiet and speculation virtually non-existent owing to the strike threats in the tire industry.

## TIN

**T**HE International Tin Committee, representing five of the major producing countries, cut export quotas from 90% to 85% for the second quarter. There is little practical effect on supply, as the 90% allowable has not been reached thus far in the first quarter. Visible supplies up about 2000 tons, to 15,607. Spot metal is still scarce, a situation which the London Metal Exchange has called to the attention of the British government with a request for relief.

**B**UYING interest has been light, and centering chiefly in early deliveries. Consumers' stocks are moderately up. The pace of tin plate production has been advancing, and reached 75% during February, a gain of about ten points for the month.



**I**N a fluctuating market, tin prices held close to the 48-cent level, being fractionally above that point at the turn of the month. The effect of the announcement of further production curtailment was to strengthen the market, but without any appreciable advance in regard to either price or demand. The bulk of February business was placed at about 47½ cents.

## ZINC

**P**RODUCTION of zinc concentrates receded slightly from the active levels of January, but recovered in the closing week of February to a 9,500 ton weekly rate. Much of the new slab zinc capacity reported last fall has not yet been placed in operation but is ready for the expected upturn of the spring and summer.

**D**EMAND for slab zinc picked up slowly during the month, with shipments exceeding sales by a good margin. Sales of 12,580 tons in the third week were the highest in three months, but following the subsequent price advance the upturn was retarded, and little carload business was done in the closing week.

**A** PRICE increase of \$1.00 per ton on February 26th brought slab zinc to 4.90 cents per pound, the first major price change since the \$2 advance of October 8th, and coming close to the producers' avowed goal of 5 cent zinc. The new level seems firm. Price of concentrates is unchanged at \$31-\$32 per ton.

# INDUSTRIAL PURCHASING

A summary of the buying function  
as presented before the class in  
Industrial Purchasing, University  
of Cincinnati, January 20, 1936

**JAMES M. BERRY, P. A.**

The Drackett Company  
Cincinnati



**P**URCHASING until very recent years has been decidedly neglected but clearly justifies consideration as a major function of industry. Over fifty per cent of the total income of the average business enterprise is spent for materials—more for supply and expense purchases. The function merits, equally with sales, production and finance, the direction of a well-educated, intelligent, alert and open-minded executive in any but a strictly one-man organization.

Purchasing under the leadership of outstanding members of the National Association of Purchasing Agents is rapidly attaining greater importance in the business world and is receiving greater attention from industrial management. Purchasing executives are being vested with greater authority and greater responsibility, but the possibilities inherent in the purchasing function cannot be realized overnight. The advancement of purchasing depends quite naturally upon the training and ability of purchasing men themselves, and their grasp of the larger aspects of the purchasing function.

The organization of the purchasing department may be logically

subdivided into three parts, all essential to a coordinated and complete purchasing service to the business of which it is a part: first, the "buying" division, including mechanical follow-up and invoice checking; second, the "economies" division, devoting its attention to market and commodity study and maintaining catalog files and full records of past activities; and third, the "engineering" division, to study materials and sources and develop standards and specifications upon which to intelligently base actual purchasing. There are other related activities which may be directed by the purchasing head, such as traffic, receiving, inspection, stores, and inventory control.

To adequately man the purchasing department it is necessary to secure or develop highly trained personnel of absolute honesty, clear understanding of engineering and manufacturing processes, broad sense of economic relationships, calm reason, tact and diplomacy, and real executive ability.

The three major considerations of quality, quantity and price are interrelated and are present in every purchase. The right quality for the specific requirement, un-

equivocally defined by exact specifications, obtainable at the lowest "ultimate" cost, in contemplation of the quantity required, expresses the proper purchase. A fourth consideration which must not be lost sight of is time, in relation to requirement and price. To fully consider all these factors involves a careful selection of sources of supply on the basis of their dependability and reliability.

A close control of inventories enables the most judicious use of working capital, reduces handling costs, checks waste, minimizes depreciation and obsolescence, and makes for high flexibility of production. The purchasing department, with its knowledge and records of purchases, commodities and markets, should effectuate any policy of inventory control. Whether stores are the direct responsibility of the purchasing department, the closer and more direct the contact and responsibility the more efficient and effective the inventory control should be.

The purchasing department is called upon to buy a wide range of items in addition to the most important class, raw materials, and each class of commodities entails distinct problems. Operating supplies, machinery and equipment, maintenance and repair materials, office equipment and machines, office supplies, printing and service, may be mentioned by way of indicating the extent of the diversifi-



cation of items daily confronting the purchasing staff.

The purchasing function, of its very nature, involves legal relationships with suppliers and between the purchasing "agent" and his "principal." Purchasing executives must understand thoroughly the nature of the contracts they are negotiating, the rights and liabilities of all parties, and the remedies available to them for breach of contract or warranty, but in no case can such knowledge substitute for competent legal counsel. Similarly, whether under the jurisdiction of the purchasing department or not, the principles of traffic control, rates, service, and management, should be clearly understood by purchasing men.

The ultimate measure of the efficiency of the purchasing department is, of course, the service it renders to its organization. Mutual respect for and appreciation of the authority and responsibility of the coordinate executives of the production, purchasing, sales, and financial departments, are essential for the close cooperation necessary for the fullest success of a business organization. The purchasing executive must assume, as the youngest in point of recognition, the major responsibility for the promotion of understanding and cooperation with the other executives. The extent to which he can win the close cooperation of production, sales, and financial executives, will determine in large manner the extent of his success in the direction of the purchasing function.

## OTHER EDUCATIONAL ACTIVITIES

### MILWAUKEE

The College of Business Administration at Marquette University, Milwaukee, has just completed a one-semester course in "Purchasing Policy and Practice," under the direction of George W. Kniek, Assistant Professor of Business Ad-


ministration, with the co-operation of the Milwaukee Association of Purchasing Agents.

The purpose of the course was to present to the students a list of topics of general importance in the field of Business Management and of particular importance in the purchasing function of management. Classes were held each

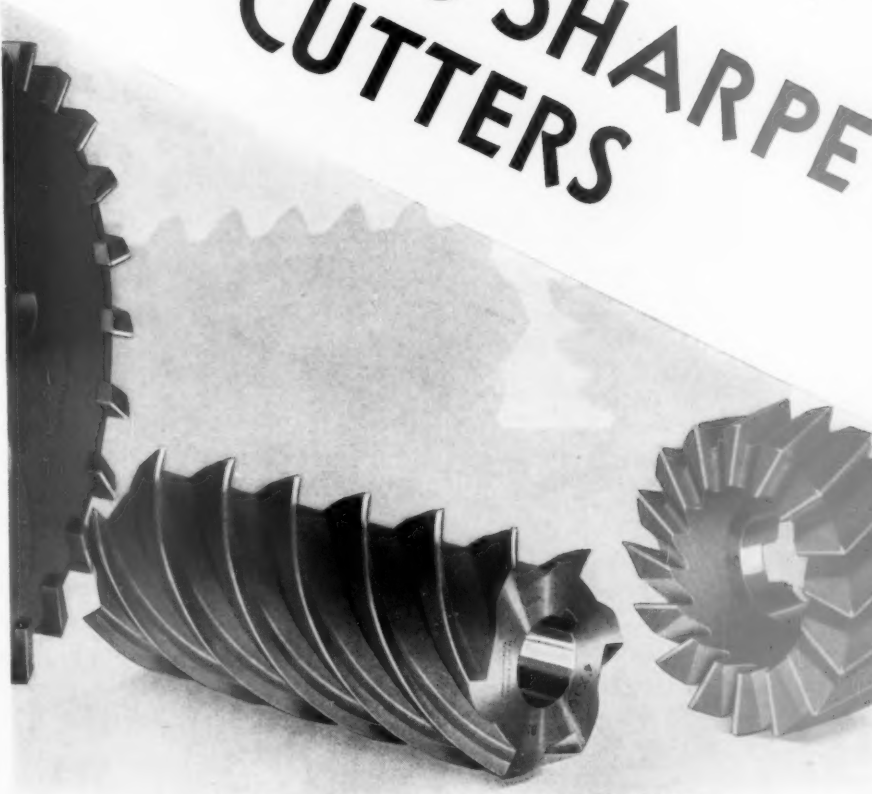
Thursday evening enabling assistants in purchasing departments to enroll. The textbook "Industrial Purchasing" by Howard T. Lewis was used.

Throughout the course, topics such as Purchasing Procedure, Control of Quantity and Stores, Price Policies, Speculative Purchasing, Purchasing Budgets, Legal

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Aspects of Purchasing, Traffic, etc., were discussed by different members of the Milwaukee Association of Purchasing Agents.

#### SAN FRANCISCO

February sessions in the purchasing course sponsored by the P.A.A. of Northern California were as follows:

Feb. 4—"Sources of Supply." P. C. Weber of California Ink Co., and C. W. Whitney of the Association.

Feb. 11—"Relations to Stores Department." Hobart W. Mears of Matson Navigation Co., and Wayne R. Allen of Key System.

Feb. 18—"The Purchasing Agent and the Salesman." Frank D. Bryant of Standard Oil Co. of California, and Harry F. Kolb of Hercules Powder Co.

Feb. 25—"Government in Business." P. M. Patterson, and Edward M. Welch of American Manganese Steel Co.

#### HARVARD

Professor Howard T. Lewis of the Harvard Business School will direct a course in Purchasing in the fifth Special Session for Business Executives, to be held during July, 1936. Constant reference to the close relationship between purchasing and general marketing problems will be the keynote of the course. By this approach purchasing agents who attend the session will be encouraged to develop a broader viewpoint of purchasing than the pressure of daily jobs allows.

Since the contacts of buyers and sellers form a common background for the purchasing and sales management functions in business, one half of each day will be devoted to joint discussion by executives in these two fields. This portion of the work will stress primarily the problems in selling industrial goods, such as markets and channels of distribution, price policy, and sales

promotion. The discussion, led by Professor Edmund P. Learned, should provide a stimulating background for the consideration of the more technical problems of purchasing, under Professor Lewis.

The strictly purchasing section will involve an intensive analysis of the field, with particular attention directed to recent trends and developments. Actual business situations will be used as a basis for class work which will begin by an examination of the nature and significance of the purchasing function and questions of organization and procedure, including the use of records and reports. Following this, problems involving control of quality and quantity, and the selection of sources of supply will be taken up. The latter part of the course will be concerned with price policies, speculative purchasing and finally, the measurement of purchasing performance.

One of the most stimulating phases of the course should be the active and open discussion of the material by the executives. The development of depth and balance of thought by encouraging exchange of ideas has long been the practice at the Harvard Business School. When business men were exposed to this procedure in four previous executive Sessions, it was found that they were in accord with the method as it encouraged individual thought rather than the mere temporary absorption of lecture notes. As a supplement to the regular course work this summer, it is planned to hold weekly banquets at which a number of speakers will consider problems of present day importance.

The major qualification for admission to the Session is a degree of experience in business rather than any educational training. To insure each man who enrolls full benefit from the instruction, however, it will be necessary to limit enrollment to men in executive positions and to a number that will facilitate free participation in the case discussions.



## PERSONAL MENTION



### CLARK ADVANCES

DONALD G. CLARK, Purchasing Agent for the Brown & Sharpe Manufacturing Company, Providence, for the past ten years, and widely known among purchasing men throughout the country for his leadership in Association activities, has been appointed to the newly created position of Comptroller of his company. Mr. Clark is a graduate of Brown University and Harvard Law School. He joined the Brown & Sharpe organization in 1916 and served in various capacities, chiefly connected with the sales staff, prior to his appointment as Purchasing Agent in 1925. He promptly identified himself with the Rhode Island Purchasing Agents Association, subsequently being elected to the presidency of that group. In 1930 he was elected to the Common Council of Providence, where he served two terms, where he fostered the movement for centralization of municipal purchasing and headed Mayor Dunne's committee to study and report on a plan for a city purchasing agent. He achieved national prominence in purchasing circles in 1931, through his prize paper on "Measuring the Efficiency of the Purchasing Department" in the first N.A.P.A. contest. Two years later he became national Vice President, representing District No. 9, and his

outstanding ability and service in that position naturally resulted in his selection as N.A.P.A. President at the Cleveland convention the following year. He was re-elected to the national Executive Committee in 1935 as Vice President at Large. During his service as a national officer, he personally visited the majority of member associations in all sections of the country, and has been a featured speaker at local and national meetings, as well as appearing before many business groups outside of purchasing and as a lecturer at the Harvard Graduate School of Business Administration. Among his major accomplishments has been the development of the educational program of the Association, including the sponsorship of Prof. Lewis' authoritative textbook on "Industrial Purchasing." As contributing editor of Alford's "Cost and Production Handbook," he wrote the section on purchasing for that highly regarded reference work on industrial management. His advancement at B&S, as in the Association, is the recognition of merit, achievement, personality and leadership.

RAYMOND W. DIXON succeeds Mr. Clark as Purchasing Agent for Brown & Sharpe. He is a graduate of Harvard University, and has been connected with the company for a number of years in the purchasing and sales departments. He assumes his new duties with an excellent background of experience, and with a wide acquaintance in purchasing circles gained in connection with his former duties.



### LEX TO TVA

CHARLES E. LEX, for the past eight years purchasing agent for the City of Cincinnati, has resigned to become assistant to the director of the Procurement Division, Ten-



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nessee Valley Authority, with headquarters at Knoxville. In the municipal buying office, Mr. Lex made a significant contribution to public administration policy in co-ordinating the purchases of city, county, and Board of Education, thus establishing greater volume buying power and eliminating a large amount of duplication.

HARRY F. WAGNER, who has been connected with the city buying department for sixteen years, and has held the position of Assistant Purchasing Agent since 1930, has been advanced to the Purchasing Agent's position, succeeding Mr. Lex.

★

### HUTTER BUYS FOR SCHIEREN

CHARLES HUTTER has been named Purchasing Agent for the Charles A. Schieren Company, New York City, manufacturers of

leather belting, with plants at New York and at Bristol, Tennessee. He succeeds Roy C. Moore, who has been appointed Domestic Sales Manager for the Company after ten years of service in purchasing and production activities. Mr. Moore has been active in the New York Purchasing Agents Association, and has been a member of the Executive Committee for the past year.

★

### TOMPSON IN SALES WORK

GUY A. TOMPSON, for the past eighteen years purchasing agent for the Empire Companies, Bartlesville, Oklahoma, has resigned to become general sales manager of the Taubman Supply Corporation at Tulsa. Mr. Tompson is a past president of the Tulsa P. A. Association and also served as N.A.P.A. Vice President for District No. 2. The respect and good wishes of his

fellow buyers was strikingly attested at the January 28th meeting of the Tulsa Association, which was designated as "Tompson Night."

★

### ANNIVERSARY



FRED L. WOOD, Purchasing Agent of the U. S. Envelope Company, Springfield, Mass., and Mrs. Wood celebrated their 55th wedding anniversary on February 22nd. Mr. Wood became associated with the Morgan Envelope Company in 1879, and worked successively in the shipping, production and sales departments. When this company was later merged in the U. S. Envelope Company, Mr. Wood was named purchasing agent of the combined organization, a position in which he has served with distinguished success for more than 35 years.

★

### ARTICLE BY LaROWE

H. K. LaROWE, Assistant Purchasing Agent of the Dairymen's League Cooperative Association, Inc., New York City, is the author of the featured article in the January number of Executives' Service Bulletin, issued by the Metropolitan Life Insurance Company. Mr. LaRowe discusses "Modern Purchasing Management," outlining the organization and methods used in his department.

## "QUOTATION MARKS"

"OUR complex economic order is not an invention, but a growth, the outcome of 20,000 years of blind, groping evolution. It is the richest, most productive, and most equitable system in the history of mankind. It is not perfect. It has not yet eliminated poverty, injustice, and hardship, but it has done more to eliminate these burdens in the last seventy-five years than has been done in all the preceding thousands of years of man's life on earth. The foundation of this system is capitalistic, industry resting on the institutions of private property and freedom of enterprise."

—Dr. Neil Carothers  
Lehigh University

"IF we are to be motivated primarily by the assumption that bigness must be penalized and restricted merely because of its size, broad and penetrating recovery will be impossible. Business profits can not be penalized. No obstructions or deterrents must be permanently set up to prevent fair and reasonable profits."

—Hon. Daniel C. Roper  
Secretary of Commerce

"LIMITING machine invention and machine use would almost inevitably mean return of drudgery, lack of invention, increase of obsolescence, and gradual lapse in machine skill in both design and operation. Gradually, too, would come deterioration of beautiful machine goods which are just beginning to express the esthetic personalities of their makers as the best handmade goods do."

—Dr. L. M. Gilbreth  
Consulting Engineer

"DISTRIBUTION changes are so rapid and so complex in their ramifications that business executives cannot be fully aware of

their significance except through authentic data collected and interpreted on a nationwide basis. Neither national planning nor individual planning is possible without such pertinent facts and comparisons."

—Virgil Reed  
Bureau of the Census

"IT is a matter of nationwide concern when a great industry is wasting itself in a competitive struggle that is helping no one. When this calamity is directly traceable to State labor laws put forward in the name of humanity, and to national legislation designed to benefit other economic sections of the nation, a great national injustice is proved, and its victims need not be apologetic in calling this injustice to the attention of the nation."

—Gilbert H. Montague  
Attorney-at-Law, New York

"PRODUCTION and the conduct of trade in this country and abroad require for their assurance that the value of the currency of each country shall not widely fluctuate in terms of other currencies. Such stability gives certainty to commerce. It is a mutual safeguard against large and disturbing changes caused by monetary changes in other countries. It is a sign of the existence of balance in an international economic system, and it promotes that system to the mutual benefit of all."

—Hon. Cordell Hull  
Secretary of State

"THE government never interferes with business until business creates the necessity."

—James A. Horton  
Chief Examiner  
Federal Trade Commission

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# WITH THE ASSOCIATIONS

## FEBRUARY 3

**Portland, Oregon — Oregon Association.** Professor Morris, of the University of Oregon, gave the third of a series of lectures on economic problems.

## FEBRUARY 8

**Seattle —** Midwinter dinner dance of the **Washington Association**, at the Washington Athletic Club. The Committee in Charge: Athol Baker, *Chairman*; Charles W. Gilpin; Maurice F. McClare.

## FEBRUARY 10

**Houston —** Inaugural dinner of the **Houston Association**. The new officers are: *President*, Paul H. Griner, of Oliver H. Van Horn Co.; *Vice Presidents*, O. D. Story, of Shell Petroleum Co., and Arthur H. Kreuger, of Temple Lumber Co.; *Secretary-Treasurer*, J. R. McClarty, of Texas Pipe & Supply Co.; *National Director*, Harry Lingle, of Humble Pipe Line Co.

**Boston — New England Association**, at Schrafft's Restaurant. Afternoon Conference, round table discussion of "Office Procedure and Methods," led by Everett E. Brainard, P. A. of Merrimac Chemical Company. Dinner meeting: address on "Creative Purchasing" by E. H. Schell, Professor of Business Management, Massachusetts Institute of Technology.

## FEBRUARY 11

**Kenosha, Wisconsin — Milwaukee Association**, at the plant of the Nash Motors Company. Afternoon trip of inspection through the Nash plant, followed by regular dinner meeting, featured by general discussion of the N.A.P.A. commodity survey and market trends.

**Tulsa — Tulsa Association.** Speaker, M. E. Montrose, Mid-Continent Manager of Lane Wells Co., "Gun Perforation of Casing," illustrated with motion pictures.

**Huntington, West Virginia — Tri-State Association** (West Virginia, Kentucky, Ohio) at the Hotel Priehard. Inaugural Banquet of this recently organized group (See *THE EXECUTIVE PURCHASER*, October 1935 issue) marking its affiliation with the National Association of Purchasing Agents. Presiding Officer: Arthur A. Meter, P. A. of The West Virginia Rail Company, Huntington, and President of the Association. Toastmaster: Harry Fenner, P. A. of The Cincinnati Shaper Company, N.A.P.A. Vice President for District No. 6. Address of Welcome, by Walter N. Kirkman of Baltimore, Past President of the

N.A.P.A., and I. E. Walton, P. A. of the Heppenstall Company and National Director for the Pittsburgh district. Address by George A. Renard, Secretary of the N.A.P.A.: "From One P. A. to Another."

## FEBRUARY 12

**Buffalo — Buffalo Association**, at Hotel Statler. Sound-movie: "The Making of Stainless Steel — the Metal of 1000 Uses."

**San Francisco — Northern California Association**, at Commercial Club. Speakers: Robert Peek of Braun-Knecht-Heimann Co., "Things about Chemicals"; Frank H. Beckman, Business Counselor, "A Balinese Cremation."

## FEBRUARY 13

**Chicago — Chicago Association**, at Hotel Sherman. Speaker, Walter M. Sackett, Sales Manager of R. R. Donnelley & Sons Co., "The Purchase of Printing."

**Los Angeles — New Members Night of Los Angeles Association** at the Jonathan Club. President, Cliff Thorburn, P. A. of Pacific Electric Railway Co., presiding. Address by Bruce Findlay of Los Angeles Chamber of Commerce, "Lincoln — Man of Destiny." Commodity reports: Frank Anderson of Atlas Brass Foundry, "Non-Ferrous Metals"; Mel. C. Baker of Featherstone's, Inc., "Automotive Equipment and Supplies"; H. F. Rea of J. E. Electrical Supply Corp., "Electrical Supplies."

**Seattle — Washington Association**, at Olympic Hotel. Speakers: Prof. Joseph Demmery, University of Washington, "Current Economic Problems"; T. D. McDonald, Traffic Representative of United Air Lines, "Progress in Air Travel"; James Matthews, pilot, "Behind the Scenes of Air Transportation." Silas Rich, of the State Public Welfare Department, was elected to honorary membership.

**Springfield, Mass. — Western Massachusetts Association**, at Worthy Hotel. Speakers: J. T. Phipps, P. A. of the Bullard Company, Bridgeport, Manager of the Industrial Exhibition sponsored by the association, to be held at the Springfield Municipal Auditorium, March 5-7; Stuart F. Heinritz, Editor of *THE EXECUTIVE PURCHASER*, "F.O.B.—The Philosophy of Buying." Eleven new members were formally welcomed at this meeting.

## FEBRUARY 14

**San Francisco — Joint luncheon of the Northern California P. A. Association** and the Golden Gate Paint, Varnish & Lacquer Association, at the Club Trouville.



## FEBRUARY 18

**Pittsburgh** — **Pittsburgh Association**, at William Penn Hotel. Joint meeting with the Pittsburgh Chapter of the National Association of Cost Accountants, the third meeting of this type to be held by the association. Topic: "Budget Control of Materials." Cost Accountants' viewpoint presented by E. A. Berry, Auditor of the Koppers Company. Purchasing Agents' viewpoint presented by Karl F. Westermann, P. A. of The Columbia Steel & Shafting Company.

**New York** — **New York Association**, at Builders' Exchange Club. Speakers: George W. Shannon, General Traffic Manager of Otis Elevator Company, on "The Traffic Department and Its Relation to Purchasing"; Dr. William F. Durand, Professor Emeritus of Mechanical Engineering, Stanford University, on "Our Vast National Projects." Motion Picture, "Construction Methods on the Boulder Dam."

**Akron** — **Akron Association**, at the University Club. Motion picture showing work at the Boulder Dam project, presented through courtesy of the Babcock & Wilcox Company, with explanatory talk by G. E. Gronemeyer.

**St. Louis** — **St. Louis Association**, at the York Hotel. Speaker, J. H. Kinealy, "Contracts."

## FEBRUARY 19

**Boston** — **New England Association**, visit to the plant of the Boston Herald Traveler Corp.

## FEBRUARY 20

**Cleveland** — **Cleveland Association**, at Hotel Cleveland, Rose Room. Annual "Presidents Night" meeting, attended by all active past presidents of the association, including two — F. L. Kulow and A. G. Hopcraft — who have also served as President of the National Association. The program was featured by five-minute addresses by the guests of honor.

## FEBRUARY 24

**Providence** — **Rhode Island Association**, at the Turks Head Club. Speaker: F. G. Space, Purchasing Agent of Seymour Mfg. Co., "What Management Expects of the Purchasing Department." Intercollegiate debate between teams representing Brown University and Rhode Island State University, on the question: "Resolved, that the Courts of the United States should be required to enforce all laws declared unconstitutional by the Federal Courts, provided they are re-passed by a two-thirds vote in each House of Congress."

## FEBRUARY 25

**Syracuse, N. Y.** — **Association of Syracuse and Central New York**, at Slocum Hall, Syracuse University. Discussion of market conditions and commodity trends, led by Messrs. Delavan and Van Order.

MARCH 1936



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New Haven — Connecticut Association, at New Haven Lawn Club. Speaker, Stuart F. Heinritz, Editor of *THE EXECUTIVE PURCHASER*, "What is this thing called Purchasing?" Talking picture, "The Main-spring," presented through the courtesy of Wallace Barnes Company.

Tulsa — Closed meeting of the Tulsa Association, devoted to a discussion of purchasing department procedure.

### FEBRUARY 26

Rochester — First annual Executives Night meeting of the Rochester Association, at the Rochester Club. Speaker, George A. Renard, N.A.P.A. Secretary, "The Purchasing Agent in Industry." Past presidents of the association were honor guests at the meeting.

### FEBRUARY 27

Seattle — Luncheon meeting and plant visit of the Washington Association, at the W. P. Fuller & Company plant.

### MARCH 5-6-7

Los Angeles — Annual convention of the California State, County & Municipal Purchasing Agents Association, at the Bellevue Hotel. Officers of the Association: *President*, E. J. Plato of City of Sacramento; *Vice President*, John L. Stewart of Santa Barbara County; *Secretary-Treasurer*, Charles Christopher of San Diego County. *Convention Chairman*, Grant Goodale of Los Angeles.

Springfield, Mass. — Industrial Exhibition sponsored by Western Massachusetts Association, at the Municipal Auditorium.

### MARCH 11-12

Philadelphia — Exhibit of industrial Products and Office Equipment, sponsored by Philadelphia Association, at the Ball Room, Penn Athletic Club. Luncheon meeting Wednesday noon. Speaker: L. F. Boffey, formerly N.A.P.A. Secretary and editor of *The Purchasing Agent*, "Caveat Emptor." Dinner meeting Thursday evening. Speaker: Dr. F. Cyril James, Professor of Finance, Wharton School, University of Pennsylvania, "Taxes and the Public Debt."

### MARCH 12

Detroit — "Purchasing Agents Day" at the Detroit and Michigan Exposition (March 6-15) at Convention Hall. Evening meeting in the Auditorium, Ray J. Mauer of Detroit Lubricator Company and President of Detroit P. A. Association presiding. Speaker, City Purchasing Agent John J. Gorman, "Municipal Purchasing."

### MAY 25-28

New Orleans — Twenty-first annual Convention and Informashow of the National Association of Purchasing Agents. General sessions, group and committee meetings. General convention chairman, R. J. Preis. Convention headquarters at the Roosevelt Hotel.

THE EXECUTIVE PURCHASER

# CONVENTION COMMITTEE



R. J. PRIES



RENE GARROT

**P**LANs for New Orleans Convention of the N. A. P. A. are now well under way, with a fully organized committee actively at work, general program outlines defined, and local committees in each association group throughout the country making arrangements for large and representative attendance.

The General Convention Committee—all being members of the New Orleans Association with the exception of Program Chairman Walter M. Kirkman—is as follows:

*General Chairman*, R. J. Pries of Whitney National Bank.

*Vice Chairman*, Rene H. Garrot of United Fruit Company.

*Treasurer*, Austin Leftwich of Tropical Printing Company.

*Purchasing Agent*, W. N. Cottrell of Standard Oil Company of Louisiana.

*Secretary*, C. J. Alexander of Shell Petroleum Corporation.

*Entertainment (General)*, Frank J. Basile of National Bank of Commerce; (Ladies) Henry C. Dreyfus of Neptune Supply Company.

*Golf*, Frank Dameron of Dameron-Pierson Company.

*Hotels*, Lewis A. Stein of Standard Fruit & Steamship Company.

*Inform-a-show*, J. M. Kinabrew of Standard Supply & Hardware Company.

*Plant Visitation*, T. W. Griffith of J. J. Clarke & Company, Inc.

*Publicity*, Theo. H. Harvey of Theo. H. Harvey Press.

*Program*, Walter N. Kirkman of Maryland State Department of Health, Baltimore, Md.

*Reception*, Arthur J. Haas of Madison Lumber Company.

*Registration*, Ed. C. Seghers of Gulf Refining Company.

*Service*, Walter B. Eagan of Brook Tarpaulin Company.

*Transportation*, John A. Weigand of A. Marx & Sons, Inc.

The convention dates, May 25-28, have been well chosen with a view to the convenience of those delegates who may wish to attend the International Oil Show, which takes place at Tulsa the preceding week, or the Texas Centennial Celebration, which opens in Dallas and Houston the week following the N. A. P. A. meetings. New Orleans is accessible by boat, train, car and air, and judging from the plans now under discussion in many of the member associations, all of these varied facilities will be utilized when purchasing men foregather at the southern metropolis in May.

## ELKINTON IS ELECTED

HOWARD W. ELKINTON of the Philadelphia Quartz Company, President of the Philadelphia Purchasing Agents Association, was elected to membership on the Committee on Science and the Arts of The Franklin Institute, for a three year term, at the recent organization meeting of the Directors.



Two views of the enormous Columbia stockroom.

## Your Money Will BUY MORE HERE!

**W**E wish all who are interested in the value and performance of ribbons and carbons could inspect the Columbia stockroom, partial views of which are shown here.

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If unable to visit the Columbia stockroom, a "trip" through the comprehensive Columbia catalog is almost as convincing. Write for this catalog today—tell us your requirements—ask for our suggestions for improving the performance of your present ribbons and carbons. You will be gratified by the scope and performance of Columbia Ribbons and Carbons.

*P. S. Talk it over with us at New Orleans*

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# BUSINESS BOOK OF THE MONTH

MEN, MONEY AND MOLECULES—  
Three hundred years of industrial  
chemistry in the United States. By  
William Haynes, Publisher of *Chemical  
Industries*. Published by Doubleday,  
Doran & Co., New York. 186 pages, with  
illustrations. Price \$1.50.

**Technical and economic background  
of an industry that is destined to  
play an increasingly important part  
in our national development and our  
international commercial relations.**

IT is three hundred years since the chemical industry came to America with the establishment of John Winthrop's modest plant at Boston in 1635 for the manufacture of saltpeter, alum and gunpowder. This anniversary is the occasion for a most interesting and illuminating survey of the industry, now grown to huge proportions and importance in our national life, by a man eminently qualified to speak with authority and from experience on the technical, commercial and economic phase of this development.

The beginnings of chemical knowledge are ancient and obscure, having a foundation in a few elementary operations "discovered by a long series of happy accidents, tested by trial and error, applied by rule of thumb." Today that knowledge has been expanded and applied with scientific precision to become the basis of vast industrial operations involving millions of dollars and millions of tons of materials, serving thousands of useful purposes, removing the bugaboo of exhausted natural resources, gearing up the material world to cope with the complexity and the accelerating tempo of modern living.

Viewing the progress of civilization as the story of mankind's utilization of the products of nature,

chemical industry represents a third step of progress. The first stage was for man to take what could be found, as he found it, and put it to a use of his own. The second stage involved the use of tools to hew or fashion or combine these raw materials into some more convenient and useful form. This, with the later application of power and ingenious mechanical devices, was the foundation of the manufacturing and machine age. The third step was to change the essential nature of the materials by processing, tearing apart or putting together different elements, resulting in new substances, products better suited for his uses.

The development of mechanical and chemical processes has of course been concurrent, each supplementing the other, but up to recent years the chemical phase has lagged considerably behind and has in fact been prompted, for the most part, by necessities growing out of mechanical advances. As, for example, the necessity of finding a bleaching process sufficiently rapid and on a scale to match the tremendous increase in cloth production following the introduction of the power loom.

But this relationship is even now undergoing a basic change. Mr. Haynes visions the industrial world

of today as going through a transitional period between two great technical epochs comparable to the transition from the Stone Age to the Bronze Age. We are passing out of the Age of Coal and Iron (to cite the dominant source of power and the dominant material) into the Age of Electricity and Synthetics. And iron itself, with the development of alloys and treating methods and the whole advanced art of modern metallurgy, is striking evidence of this change. There are many other examples to be found in such products as rayon, Duprene, lacquers, plastics, hydrogenated oils, and the like.

All of this makes a fascinating story, well worth the reading for its interest value alone. But to those readers who are still wrestling with doubts as to the future course of our national economy and are looking for examples that may shed some light on the perplexing theories of industrial control, limited production, technological unemployment, price recovery, buying power and all the other related and contradictory factors that have plagued us for these many years, there is an even deeper significance in this story of the chemical industry.

Chemical progress has been a process of successive substitution—and contrary to the generally unfavorable connotation of that word, it has been the substitution of better products and methods for the traditional materials, and at lower cost. Industrially speaking, that is a ruthless system, strewing the path of development with whole industries outmoded, obsolete and

idle in the name of progress. But in the history of the chemical industry such upheavals have outlived the first tragic shock and have emerged ultimately better off in every sense for facing and accepting the fact, rather than struggling to maintain and perpetuate a situation that had been proved basically uneconomic. The profit record of the industry, even in difficult times, has been outstandingly attractive.

It has been a record of drastic cost and price reduction through technical advance. But the resultant expansion of production and use has compensated the industry handsomely. Several such examples are cited in this little book. There is, for instance, Tennant's production of bleaching powder, with an output of 52 tons in 1800, at \$700 a ton. Twenty-five years later the price had dropped to \$135 per ton, but output was up to 910 tons. In 1870, the price was down to \$42.50, and output up to 9,251. Today the original use of that product has waned as the bleaching is done by chlorine direct. Take a more recent example—synthetic ammonia, a development hastened during the war days to escape the Chilean nitrate monopoly. Revolutionizing the industry to the extent of grave political crises in South America, as recently as 1926 this development caused a dramatic price slash from 30 to 15 cents a pound, with the immediate result of halving a gross dollar-volume business of seven and a half millions a year. But the ultimate result was a wide extension of the uses of ammonia. And though the price eventually settled down to a third of the earlier level, consumption quadrupled, dollar volume was actually up, and again a reference to the manufacturers' balance sheets shows no catastrophic results. Mr. Ford and the low-priced automobile are not the only successful exponents of the Brookings economic plan, and the potentialities of chemical science as compared to

prospects of further efficiency in mechanization indicate that we may look to the chemical industries for a large share of future development along this line.

Mr. Haynes looks forward with confidence to an era of research activity and chemical development of unprecedented vigor and tempo. The fact that progress is even now so swift that in some fields it has been literally impossible to erect a new plant that is not obsolete in some detail before it can be put into operation—this is but an indication of even greater speed and accomplishment to come. And the results—cheaper products, more products. But this prospect does not alarm him. For the historical review demonstrates that it also means more work, new wealth, conservation of resources, economic independence, broader distribution of purchasing power, and a vastly increased market for all chemicals.

There's a lot more packed into the pages of this little volume that will be of aid in gaining a more intelligent insight into and outlook upon this important industry, material of practical interest to every buyer of chemical products. And if Mr. Haynes' predictions as to the ramifications of chemical progress are sound, that means pretty nearly all buyers.

### HUDSON MOTORS PICKS PURCHASING MAN

ABRAHAM EDWARD BARIT, recently elected to the presidency of the Hudson Motor Car Company to succeed the late Roy D. Chapin, joined that organization in 1909 as a member of the purchasing staff. His advancement has been deservedly steady and rapid, and at the time of his recent appointment he was serving the company in the capacity of vice president, treasurer and general manager. Mr. Barit is described by his associates as "the kind of man who makes the wheels go around."



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## TRADE LITERATURE

Benjamin Electric Mfg. Co., Des Plaines, Ill., offers a new 28-page bulletin concerning its new 400 watt high intensity mercury vapor lamp, producing at high efficiency a light chiefly in the yellow-green and green portions of the visible spectrum, near the eye's peak of sensitivity. Among the applications where such light has proved to be especially advantageous are spray and finishing booths in auto body plants, furniture factories, inspection frames in textile plants, floodlighting for gasoline service stations and outdoor play areas.

★

David Linzer & Sons, 10 Astor Place, New York City, have recently issued Catalog No. 35, 64 pages of information regarding brushes for all industrial uses, featuring a new line with "Compo-fibre" binding, which is non-conductive and non-corrosive.

★

A new method of carpet maintenance in hotels, stores and public buildings is described in a booklet issued by the Hild Floor Machine Co., 108 W. Randolph St., Chicago. Washing with volatile chemicals without removing the carpeting from the floor, at a cost of less than 1/2c per square foot, has shown substantial savings for hotels, retail stores, and other public buildings.

★

Catalog No. 5 of the Youngstown Pressed Steel Company, Warren, Ohio, is a 16 page booklet describing and illustrating all-steel material handling equipment, including skid platforms, box truck bodies, crane boxes, sectional boxes, solid boxes, tiering storage units, tote pans, portable and sectional storage bins, all designed to save space, time, labor, and production costs.

★

Bulletins 118 and 119 of the Reliance Electric and Engineering Co., Cleveland, give comprehensive descriptions and data on a line of squirrel-cage induction motors for various industrial applications.

★

"Over the Rough Spots" is a 24-page booklet distributed by the Stonhard Company, 401 North Broad Street, Philadelphia, designed for plant and maintenance men and purchasing executives. It deals with lengthening the life of wood and concrete floors, leveling rough spots and worn places in all types of floors and trucking aisles, and waterproofing methods for roofs and masonry.

Bulletin D-1 of L. J. Wing Mfg. Co., 14th and 7th Avenue, New York City, describes a new heater specially designed for large door openings as in shipping and receiving departments, docks, bus terminals, freight platforms, garages, etc. File size, 8 1/2 x 11, the bulletin is illustrated with diagrams of typical installations.

★

International Paper Company, 220 East 42nd Street, New York City, has issued a very attractive folder of papers specially adapted to the photo offset printing process, combining the qualities of smooth ink impressions and short run economy. The folder contains a liberal assortment of actual samples showing the possibilities of this process, ranging from simple lists and factory forms to book jackets and elaborate mailing pieces in full color, done on Adirondack Bond, Champlain and Ticonderoga Text, and Lexington Offset.

★

A four page folder announcing a new product — Concretdense — is being distributed by Flexrock Company, 800 North Delaware Avenue, Philadelphia. This product, a combination of three chemicals, is adapted to all structural applications where ordinary concrete is used, and is particularly recommended for floors and floor maintenance because of its superior denseness and consequent resistance to wear, its waterproof quality, its property of bonding to old concrete, and high early strength which permits use within 15 hours after installation.

★

"Buyers' Guide for the Office" is the title of a new catalog just issued by The Shaw-Walker Company, Muskegon, Michigan. The guide contains 480 pages, and lists more than 8000 items of business furniture, record protective equipment, loose leaf binders and forms, card records, filing equipment and supplies. The catalog is conveniently arranged by departments and completely indexed for ready reference. The essentials of purchase information are given for each item — illustrations, method of use and application, detailed specifications, and price.

★

Circular 317 of the Lewis-Shepard Company, Watertown, Mass., is devoted exclusively to factory and warehouse floor and lift trucks equipped with easy rolling rubber-tired wheels. The advantages claimed for this tire equipment include: less energy, fatigue, noise, confusion, vibration, floor and truck wear, load dam-



age, shocks and jars; more speed, load capacity, and loads per day.

★

"A Case of Good Business" is a new and novel portfolio devoted to the use of gummed papers in merchandising and advertising campaigns, showing the possibilities of idea-producing sales helps and other applications that may be achieved through the use of gummed papers that really lie flat and can be handled with ease. It is issued, free of charge, by the Mid-States Gummed Paper Co., 2433 S. Damen Avenue, Chicago.

★

Precision Scientific Company, 1749 N. Springfield Avenue, Chicago, has just issued Catalog 160, an 80-page book covering apparatus for testing petroleum products. It contains detailed specifications and references to governing standards, particularly those of the A.S.T.M., and has a reference index indicating at a glance the apparatus necessary for each A.S.T.M. designation. It is compiled and arranged for speed and convenience of use, and has supplementary information on general utility apparatus such as burners, heaters, hot plates, stirrers, etc., and shows multiple set-ups of apparatus for running identical tests in large volume.

★

A.S.T.M. Tentative Standards, 1935 edition, contains 290 tentative standards, including specifications, methods of test, and definitions of terms, embodying the latest thoughts and practices in the industrial field. 75 of these are included for the first time, and 65 which were revised during the past year are given in their latest approved form. The general classification by material groups shows 48 standards in the ferrous metals group; 32 in non-ferrous metals; 54 in cementitious, ceramic, concrete, and masonry materials; 27 in paints, varnishes, lacquers, waterproofing and roofing materials; 17 in petroleum products and lubricants; 41 in road materials; 49 in rubber products, textile materials, and electric insulating materials; and 22 in miscellaneous materials and general methods. The book contains 1500 pages, thoroughly indexed, and can be obtained from American Society for Testing Materials, 260 South Broad Street, Philadelphia, at \$8.00 for the cloth bound edition, or \$7.00 with heavy paper cover.

★

A 4-page folder issued by Chain Belt Company, Milwaukee, describes and illustrates a new non-clogging nozzle for spraying, washing and cleaning opera-



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tions in a wide range of industries. A specially designed throat aperture and curved spreader blade transform the water flow into a hard hitting sheet and eliminate the possibility of clogging.

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The All-Steel-Equip Company, Aurora, Illinois, has just published a new catalog presenting a new and redesigned line of locker equipment. The catalog contains 16 pages and is printed in three colors, listing all standard styles and sizes.

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A new idea in roof maintenance is presented by the Flexrock Company, 800 North Delaware Ave., Philadelphia, in a

4-page folder, 11x17 inches. The material described is a pure asphalt, unadulterated with solvents, chemicals, sludge, or foreign matter—put into usable form by equalizing specific gravity and spinning with a portion of water. Tests of this material used with saturated cotton fabric are most impressive.

★

The Angell Nail & Chaplet Company, 4580 East 71st Street, Cleveland, announces a new illustrated catalog of nails of all types, with valuable supplementary information on common defects, analysis, etc. 44 pages, pocket size.

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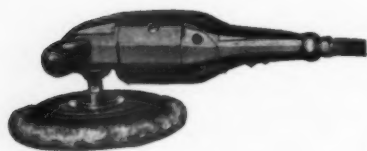


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**A** DESK high filing cabinet for personal papers and for material that must be kept instantly available at the executive's finger tips. This unit is compact, flexible and convenient, and is featured by an automatic device by which the drawer front tilts forward and the follower guide tilts backward as the drawer is released, permitting the contents to open bookwise from their normal vertical position, resulting in a 9-inch V-shaped working space and adding to the ease of filing and finding.

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run in ball bearings which give maximum torque to the wheel. The gears are cut of alloy steel and are heat treated. The design is such that the motor can be inspected while running by merely removing the two brush covers, and the entire machine can readily be taken apart for inspection and cleaning. The side handle can be used on either side of the machine to accommodate the operator. Standard equipment includes a 7-inch flexible rubber pad, 7-inch felt pad, and 8-inch sheep wool pad.

*See coupon below*

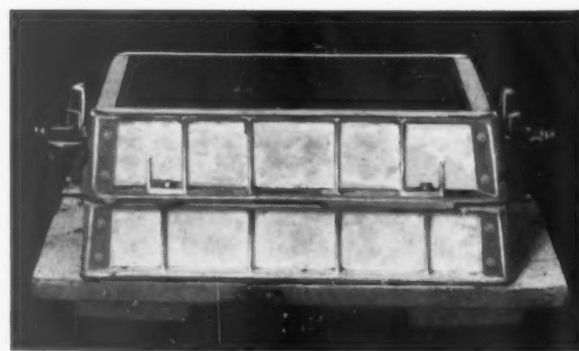
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**P**ROPERLY directed local illumination of high intensity and uniformity, but free from glare, is an aid to rapid and efficient operation and a safeguard against spoilage and accidents. Such illumination is provided by this lamp, consisting of a bracket of steel tubing, equipped with ball and socket joints and a glareless reflector shade. It can be attached to machine, wall, or table, and the operator can make instant adjustments as simply as pointing his finger. Furnished in two models—single and double arm. Adaptable for machine, assembly and inspection operations.

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**T**HIS new foundry flask is made of magnesium alloy, 30% lighter than aluminum but possessing great tensile and bending strength. It is designed with ribbed side walls and riveted corner construction, virtually eliminating the possibility of distortion or coming out of square. The patented pin pad permits the use of any standard pin and does not require any alteration of moulding machines, match plates, etc. With a maximum

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taper of 5%, the flask allows for easy stripping by means of a sand strip that protrudes an equal distance completely around the flask, providing a firm support for sand in the cope. The sand strip is cadmium plated, eliminating rusting and sticking.

See coupon page 34



## PORTABLE HUMIDIFIER

No. 185

A NEW appliance in the air-conditioning field is this portable electric humidifier designed to provide filtered, washed, humidified and circulated air without special engineering and installation expense. Its operation is entirely independent of room heat, having a self-contained electric heating element which vaporizes the water. Air is drawn through a filter, mixed and washed in a vapor filled housing, and circulated by means of a fan. Compact (12 inch diameter, 30 inches high) and light (25 pounds), it is readily portable and can be attached to any 110 volt, 60 cycle a.c. outlet. Tank capacity: 1½ gallons. 1½ pints of water are evaporated and circulated per hour.

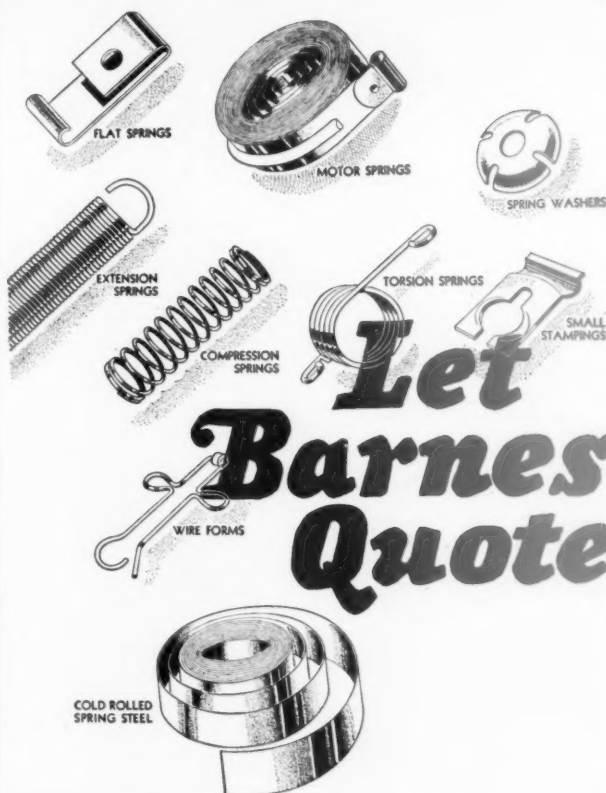
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## COMPARATOR MICROSCOPE

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THIS microscope is especially adapted to industrial use, combining rugged construction features with extreme accuracy and ease of reading. It is useful for the measurement of small points on tools, dies and finished products and for inspection and checking purchased articles against the required specifications. The instrument consists of a 60-power microscope with



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*See coupon page 34*

## HIGH SPEED LABEL PASTER



No. 187

THIS motor driven labeling machine handles all sizes and shapes of labels, and embodies an improved applicator and spreader with instant micromatic adjustment to control the thickness or weight of glue coating. There are no belts, a fully enclosed synchromesh gear drive carrying the label through the various operations. Parts are accessible and removable for washing without the use of any tools. A convenient handle makes the unit easily portable and ready for action at any point on the production line. Construction is polished aluminum and bronze, light but rigid and sturdy.

*See coupon page 34*

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See coupon page 34



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secondary connections being supplied with 4-foot high voltage cable leads, each equipped with test prong, permitting the application of standard test voltage of double the rated voltage plus 1000 to the appliance, device or equipment under test. It not only indicates shorts, opens and grounds, but actually checks circuits. The secondary test voltage is manually controlled by a tap switch, and a small ruby lamp acts as the indicator, dimming on partial breakdown and going out on complete breakdown. A 100% leakage type transformer permits short circuit for a period of time without damage, and the current limitation also eliminates burning of materials at point of breakdown of the appliance under test.

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## SIGHT-LIGHT METER

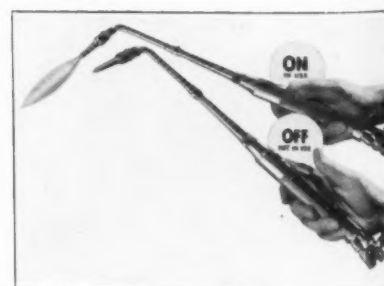


No. 191

A COMPACT photoelectric illumination meter recently introduced is expected to add new impetus to the "Better Light-Better Sight" movement by increasing the simplicity and effectiveness of room illumination tests. The new unit is of vest-pocket size, yet covers a wider range of illumination values on a single scale than any previous type. As a result of a redesigned instrument movement, illumination values as high as 250 foot-candles are read directly from the scale without the use of multiplier disks or other accessories. However, the scale is so spaced that low illumination levels are fully and legibly indicated. The scale is divided into five "seeing task" zones, set off by colored divisions. In addition to brief descriptions of these zones on the dial itself, the back of the indicator contains an embossed metal plate classifying specific seeing tasks so completely that no assumptions need be made by the user.

See coupon page 34

## GAS WELDING TORCH



No. 192

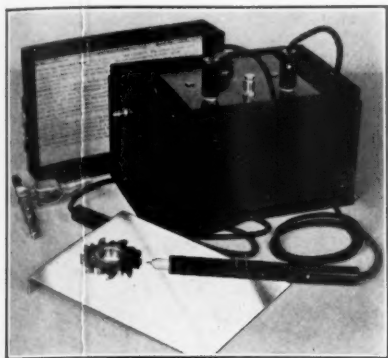
THIS new torch is designed with a thumb control shut-off valve in the handle, so designed and placed that the natural hand pressure of the operator at work holds the valve at the open position for a welding flame, and the natural release of

See coupon page 34



this pressure when the valve is idling reduces the flame to a mere pilot light, resulting in substantial saving of gas. Adjusting screws permit of making the desired initial setting, after which no further attention is required.

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No. 193

**M**ETAL surfaces, hard or soft, can be marked with a simple pencil action by means of this electrical device. The electrode has a reciprocating movement actuated by the flow of current through an electro-magnet when the electrode makes contact with the work. The combination of electrical and mechanical action produces lines or serrations on the surface. The standard model operates on 110 volt a.c., with a power consumption of about 75 watts. The entire outfit is housed in a 5 x 8 inch steel carrying case, total weight 12 pounds. A dial switch provides a choice of 15 stages of current supply. Also furnished in a model for use with dry cells or storage battery. A power unit consisting of four standard No. 6 dry cells will furnish sufficient power to produce 500 five-letter words.

See coupon page 34

## OFFICE PARTITION



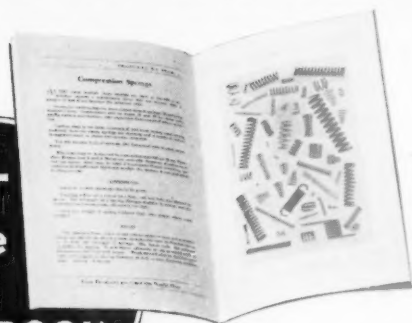
No. 194

**I**NTERCHANGEABLE units in widths ranging up to 42 inches, in 4-inch multiples, make these office partitions readily adaptable to any requirement. Each unit is 3 inches in thickness and is so designed that it can be removed without disturbing adjacent panels. Construction is of two sheets of furniture steel formed at the edges and welded to an internal core of insulating wallboard assembled on a steel frame. A cornice runs continuously over the entire partition assembly, giving added rigidity. Raceways for wiring are provided in the cornice and base, covered but accessible. Doors, glazing and transoms are also provided. The equipment is manufactured in two standard heights.

See coupon page 34

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Chicago, Illinois  
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cause of the fact that I did stay at The Drake.  
Everything was done by your employees to  
make my visit with you a success and I wish  
to compliment your establishment for the  
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(Original letter on file)

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